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## Data calling traffic impact

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Implementing the Meridian data features provides data users with access to several system features and station calling features. These include Automatic Route Selection, Hunting, Remote Peripheral Equipment, and Call Detail Recording on the system level. Autodial, Call Forward, Ring Again, and Speed Call are assignable to each co-located or stand-alone ADM or AIM. Keyboard dialing may be assigned to all co-located and stand-alone ADMs (except QMT7) and to AIM. Either the Hot Line or the Autodialing feature may be assigned to those data stations (except QMT9) that use keyboard dialing. Modem Pool services require a stand-alone ADM with a modem and the implementation of Meridian data services (QMT9 are not used for modem pools). Only two of these features associated with Meridian data—Ring Again queuing and Modem Pooling—and have a particular impact on data traffic engineering.

### Outbound Modem Pool calls

Blockage for a Modem Pool call is higher than that of the GOS for the overall system because of the need to establish three separate Meridian 1 call paths during the setup of a data call to remote computer via modem pool.

Assuming these three path setups were independent of one another, the blockage would be approximately three times greater than that of the GOS for the overall system. Because, however, all three paths must be complete to establish an active outbound call through the modem pool, these paths are interdependent. Therefore, assuming call-path dependence and a system GOS of P.01, the Modem Pool call would experience an average blockage of 4.5 percent.

Additionally, since the established data call through the modem pool consists of one intra-office data call and one outgoing-originating voice call, Modem Pool calls generate twice the network CCS of a regular voice call or intra-office data call.

## Inbound Modem Pool calls

Blockage and system grade of service is the same here as for the outbound modem pool except that only two separate paths are setup for the data call from the incoming trunk via the modem pool.

## Ring Again queuing

Ring Again feature operation is the same for data calls as it is for voice calls: it allows queuing of calls made to busy Directory Numbers (DN) within the customer group, alerts the user when the busy DN becomes free, and provides automatic call back to the DN.

For calls placed from a Data Directory Number (DDN), use Ring Again when you encounter calls to a busy data terminal, computer port, trunk route, (for example, WATS), or a modem pool DDN.

**Note:** For both voice and data calls, Ring Again does not apply to busy facilities encountered outside of the customer group.

The queuing capability Ring Again provides typically increases the use of all called service facilities within the SL-1 system. Therefore, the probability of delay (rather than blockage) and a measure of average queuing time become significant criteria in specifying the GOS for the overall system.

Since Ring Again queuing increases service facility use, thereby increasing the traffic these facilities carry, the CCS load per network loop will also increase unless the number of terminations per loop is decreased. For example, if 10 computer ports assigned to a network loop are operating at 44 percent of use without Ring Again queuing, the traffic generated is 159 CCS (36 .44 10). Assuming an increase of use to 86 percent with Ring Again queuing, the traffic generated would then be 310 CCS (36 .86 10), which is 151 CCS more than the original traffic calculation made without compensation for queuing. If this additional 151 CCS generated via queuing were to cause the total network loop CCS to exceed the limit for the desired GOS, then reassignment of line terminations to other network loops would be made as necessary.

## Keyboard dialing

Keyboard dialing provides the capability to originate and terminate data calls to local computers by using the terminal keyboard. It is used by all co-located and stand-alone ADM (except QMT7) and by the AIM to activate the data feature. The Hot Line or Autodialing feature may be used with keyboard dialing to originate data calls. The Data Directory Number (DDN) Ring Again can be used when you encounter calls to a busy data terminal, computer port, trunk route, or modem pool DDN.

**Note:** For both voice and data calls, Ring Again does not apply to busy facilities encountered outside of the customer group.